

Notice of Allowability

Application No.

09/545,597

Examiner

Ted M. Wang

Applicant(s)

CITTA ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/18/2006 amendments.
2. ☒ The allowed claim(s) is/are 1-93.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 9/20/2007
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Examiner Amendments

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Applicant's representative Mark Bergner on 9/20/2007.
3. The application has been amended as follows:

In the claims:

- ☐ Claim 29, line 1, change "21" to --- 14 ---.

Response to Arguments

4. Applicant's arguments, filed on 12/18/2006, with respect to the rejection(s) of claim(s) 1-5, 7-13, 33-37, 63 and 64 under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

Allowable Subject Matter

5. Claims 1-93 are allowed.
6. The following is an examiner's statement of reasons for allowance.
 - ☐ The prior art fails to teach an apparatus of Claims 1, 34 and 65 that specifically comprises the following:

-- The instant application is deemed to be directed to a non-obvious improvement over the admitted prior art of the instant application and the invention patented in Pat. No. US 6,240,133, US 6,442,221 and US 6,104,769. The improvement comprises:

With regard claim 1, "complex multiplying each of the left shifted input block of data, un-shifted input block of data and right shifted input block of data by a first, second and third set of equalizer coefficients, respectively, to provide respective first adjusted output blocks of data; and controlling the first, second, and third sets of equalizer coefficients so that, as a result of the addition performed according to step f), a substantially full solution to ghosts is obtained." as recited in combination with other limitation as claimed in claim 1;

With regard claim 34, "n finite filters, wherein one of the n finite filters applies a corresponding set of finite filter coefficients to the blocks of data, wherein each of the other n - 1 finite filters applies a set of finite filter coefficients to a corresponding output of the n - 1 data shifters; and a controller arranged to control the sets of finite filter coefficients corresponding to the n finite filters so that the addition performed by the adder substantially eliminates the ghosts." as recited in combination with other limitation as claimed in claim 34;

With regard claim 65, "data shifters shift the data left by two, by one and shift the data right by one, by two, respectively; each finite filter applies

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each different set of coefficient to each of the blocks of data which have been shifted by each individual data shifter; and a controller arranged to control the first, second, third, fourth, and fifth sets of finite filter coefficients so that the addition performed by the adder substantially eliminates the ghosts" as recited in combination with other limitation as claimed in claim 65.

- Obviousness-type double patenting (ODP) has been reviewed with US 6,904,085, US 6,754,262, and US 6,731,682 with common inventors. No ODP was found.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. Reference(s) US 6,904,085, US 6,754,262, and US 6,731,682 are cited because they have the common inventors and similar specification to the claimed limitation.

However, as addressed in the above paragraph, there is no ODP issue found.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is (571) 272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

Ted M Wang

Examiner

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Ted M. Wang

A handwritten signature in black ink, appearing to read 'Ted M. Wang', is positioned above the printed name.